We all stand together: using cluster associations to create worldwide presence for SMEs

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Abstract: This paper examines the potential for cluster associations to act globally on behalf of small and medium-sized enterprises (SMEs) utilising networked internet-based capabilities to trade globally. The slow up-take of such new technology and the problems involved is also becoming of increased interest to policymakers. This paper argues that cluster associations with low power-dependence and decentralised structures are better able to provide the necessary support that networks of SMEs require to utilise the technology.

Keywords: SMEs; internet; networks; ICT; cluster associations.

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1 Introduction

Globalisation has provided new opportunities for micro firms and small and medium-sized enterprises (SMEs) to trade. Simultaneously, e-commerce is offering increased abilities for such firms to take advantage of these opportunities. However, SMEs also face significant difficulties in effectively utilising the technology and maximising their global reach for trading [1–3]. One method that has been put forward to maximise the benefits whilst minimising the costs of trading globally is through the use, by SMEs, of networks [4,5] and cluster associations of various types. Given the increased emphasis in economic development policy on indigenous SME development and use of information computer technology (ICT), this seems to provide an obvious policy focus. However, such policies need to understand the issues inherent in such network-cluster associations (of power-dependence in institutional structures and interdependence) if the benefits of such structures are to be realised by entrepreneurs.

This paper outlines the potential for cluster associations to act globally, enabled by ICT. In particular, it explores the relationship between cooperation and organisational structures and systems of action in developing an ICT capability.

2 The e-commerce revolution

E-commerce is revolutionising business transactions, changing the way businesses of all sizes operate in terms of their interaction with customers and suppliers, both domestic and international and providing the catalyst for societal change. Whinston et al. [6] define electronic commerce generally as:

> "the use of electronic means and technologies to conduct commerce including within-business, business-to-business and business-to-commerce interaction." [6, p.13]

E-commerce allows even the smallest firms to market products and services to customers around the world, and thus to generate new markets, growth, and profits. For example, a survey conducted by the Arthur Andersen Enterprise Group and the National Small Business Unit [7] found that SMEs used their websites in order to reach new and potential customers (78%), sell goods and services (65%), provide information more efficiently (62%) and expand globally (17%).

This is of obvious importance, given that, as Klang et al. [5] argue, growth is often a difficult process for small firms. Further, they argue that SMEs are potentially vulnerable to market movements and disadvantaged by their size relative to global multinationals. Thus, SMEs often need the greater stability provided by larger customers' regional or global marketplaces, internationalising via subcontracting to the larger players, rather than directly to customers themselves. ICT has thus been seen as a tool with which SMEs can overcome their weaknesses, and negate the advantages larger firms have traditionally enjoyed in the global marketplace.

However, in reality, SMEs have been slower than large businesses in embracing e-commerce [1]. Even though the numbers of SMEs using the internet is rising, there are a number of obstacles to their use of e-commerce. These include cost features, customer services requirements, security problems, and technical expertise [2,3]. Nevertheless, in their analysis of e-commerce, Chappell and Feindt's [8] survey found many of the barriers were short term and perceived rather than real. The real barriers were found to be infrastructure, language and culture related.

The slow up-take of ICT and the problems involved is also becoming of increased interest to policymakers, particularly regional policymakers. Entrepreneurship and indigenous SME development has enjoyed an increasing focus in recent years, particularly in countries such as Wales. Ironically, this new focus followed a long period of concentration on the attraction of foreign multinationals into regional economies (previously blighted by industrial decline and high unemployment) using high levels of government assistance. However, recent and increasing concerns over the efficacy of attracting foreign capital have seen this support, at least partially, switch to encouragement of the small firm sector. Linked to this shift in support are initiatives to encourage the use of ICT. It may be serendipitous that this new focus has occurred at a time when both the opportunities and problems of internet solutions are becoming apparent. The growth and use of ICT will depend upon the nature of these opportunities

and problems and whether government policies meet the challenges faced. This pape outlines how, through the use of cluster associations based on cooperation and effectiv structures and systems, this can be maximised.

However, the growth in use of ICT by cluster associations itself depends on the one hand upon the initiatives of government policy to meet both the opportunities and challenges. Moreover, it depends on the capacity of cluster associations to build partnerships that are proactive in assessing opportunities and risks for internal and external environments.

3 Potential costs, barriers, advantages and solutions offered by e-commerce to SMEs

The most frequently cited impediment to e-commerce cited by SMEs is cost [3]. Fundamental cost concerns are lack of funds for implementation, limited funds and skills [9] for site maintenance, and worries over the return on the investment. Linked to this (because of the cost implications), are security concerns over information, ordering, fallible Internet Service Providers (ISPs) and web hosts. Other impediments are e-commerce integration and implementation issues over customer services [3]. This is because of the SMEs' traditional reliance on customer contact and building systems around this [2].

Recent empirical evidence for impediments to e-commerce includes Brooksbank et al. [10]. Their survey of 298 SMEs found that the main restrictions and barriers to undertaking e-commerce were:

- existing work pressures on staff (43% of respondents)
- lack of in-house technical support (30% of respondents)
- shortage of financial resources (25% of respondents)
- low level of IT skills in the business.

Related to these findings is the problem for SMEs of information relevance outlined by Klang et al. [5]. The internet has been touted as a way in which SMEs can more easily obtain valuable market information. In reality, obtaining the information necessary for SMEs to break into new markets is becoming more problematic. This is because internet growth has had the side-effect of burying the important information amongst the irrelevant. Thus, Klang et al. [5] argue, SMEs are vulnerable to increasing information costs, and internet searches require experts and expert systems, generating cost but not certain return on the investment.

Although there are problems and costs associated with e-commerce, there are also large countervailing potential benefits for firms, given that there has been a dramatic increase in the percentage of SMEs gaining access to the internet [10]. One facilitating mechanism for SMEs is through institutional support from an e-commerce marketing association. This could enable under-resourced SMEs to compete through a specialised association to undertake the e-commerce trading and other associated activities. For example, in Japan and Italy, similar associations have existed for some time for SMEs specialising in bookkeeping and accountancy services.

Conducting business on the web offers efficiency and information gains because of the potential reduction in supply chain tiers separating producer from customer. This also reduces marketing friction, as well as barriers created by time and distance, allowing new markets to be exploited utilising new and more efficient supply chains [4]. They believe that SMEs need to utilise this opportunity because it can allow SMEs to compete with larger more resource rich companies with established supply chains. The very lack of established chains and international presence gives SMEs a first mover advantage. However, a first mover advantage will not likely be recognised unless there is collective cooperation to provide a critical mass.

How e-commerce aids the SME depends on the nature of the business in question. The largest part of e-commerce has been found to be business-to-business trade [11], even though most of the publicity has been for business-to-consumer possibilities. Au and Ho [4] see this as a key way in which small manufacturers can penetrate overseas consumer markets, because it allows the entry barriers from large retailers to be bypassed. They also argue that whilst SMEs often do not possess the capability to build and maintain sophisticated websites themselves, they can promote their products through established commercial portal sites and sell their products through various virtual sales outlets to the target consumers. One step on from this, which commentators are also promoting as a way of maximising the benefits whilst minimising the costs, is through the use of network organisations [4,5] and extranets [12].

Klang et al. [5] believe that business networks of firms offer stable information sources about market relationships that entrepreneurs can then utilise for competitive advantage generally. Further, they see the use of information technology and the internet as a way of allowing these networks to develop between SMEs, allowing low cost high quality market information. They argue that:

> "This is an optimal solution which can be achieved with the astute use of dynamic networks adequately supported by information technology. In the dynamic network the member has access to new geographical markets and players already located in that particular market who have knowledge of the local traditions, legal environment and customs. The use of information technology to support the network is a tried and tested method in lowering the cost of communication between geographically separated individuals." [12, p.19]

Examples posited by Klang et al. [5] include letsbuyit.com, which brings together various producers and consumers to negotiate prices of goods and services. They note that Swedish consumers utilise this site to reduce the cost of products below the price they could obtain it in their home market.

In addition to this type of geographically diverse network, however, there are also opportunities for groups of spatially concentrated SMEs to utilise internet based networks to market themselves as if they were a larger single organisation (albeit one with many services). Styles and Goldsworthy [12] illustrate this in their example of the Gippsland International (GI) extranet. A total of 18 firms (all with under 50 employees) participated in the pilot extranet, along with the local government and further education institution. This is a case study of the development of a 'virtual corporation', using extranet technology to link SMEs in the Gippsland area of Victoria in Australia. Initially driven by state and local government funding, and assisted by local University (Monash) expertise, this extranet links otherwise competing SMEs to promote the cooperative interests of many SMEs and organisations. Its purpose was to develop an internal

network between the member companies, to facilitate resource and information exchange, in order to bid for and win major consortia contracts in the engineering sector (specifically those in the electricity generation industry where the region had a high level of expertise). In particular, the technology is meant to allow these SMEs, cooperatively, to compete in the global market. The extranet facilitates this by providing common communications and support technology frameworks to create effectively a single bidding entity. According to Styles and Goldsworthy [12] this does not prevent the SMEs competing with each other locally. Importantly, they conclude that:

> "The project demonstrates that competing small and medium enterprises are capable of leveraging their size with judiciously applied telecommunications technologies by creating virtual businesses. With the support of government and other agencies and with access to well informed facilitators, cooperating SMEs can apply this relatively inexpensive technology for individual, joint and regional benefit." [12, p.89].

Au and Ho [4] also indicated that dynamic network organisations could greatly benefit highly pressurised SMEs in the Hong Kong clothing industry. This promotion of technology is, thus, a potentially important part of regional development policy, both generally and indeed specifically when trying to increase the international linkages of regions with the global market. As such, it represents a radical departure from the previous policy focus in many countries, which has focused on the attraction of Foreign Direct Investment (FDI).

4 Policy implications: the use of networked cluster organisations

There are thus clear policy implications for government arising from the new technology. Where the focus has now switched to a much greater emphasis on indigenous SME development, the use of information technology can be very important in generating markets, both locally, but more importantly nationally and internationally. In addition, this promotion and facilitation need not just be on a firm by firm basis, but could extend to the creation of a variety of extranet operations, as the GI extranet illustrated.

Klang et al. [5] concluded that SME survival and growth required business tools that combined human interaction with technical solutions, and that there was a need for this to be done at the regional level, backed by political organisations at the economic area (e.g. EU) level. This could be, they argued, be privately as well as publicly organised. Au and Ho [4], however, see the worldwide growth of electronic commerce as making it imperative for government export policy to be aligned with the need to train and support SME use of the new technologies. Brooksbank et al. [10] in their study of SMEs use of the internet in South East Wales also saw a clear case for government and policy development in order to increase the take-up of e-commerce by SMEs.

More specifically, however, there seems to be a need for policies that promote and facilitate SMEs to effectively cooperate in their use of the technology. Organisations such as cluster associations could provide these new trading opportunities for entrepreneurs to cooperate collectively in networked arrangements. It is the very type of interdependence between cluster associations and the entrepreneur's firm that facilitates accurate assessment of the risk for investment of resources [13]. Government uses such associations as agents for entrepreneurial development programmes [14]. They are

membership-based organisations whose membership is made up of the entrepreneurs that the associations service. As a membership based association, the members elect the board. Cluster associations have been seen as a means for governments to intervene and organise industry sectors where market opportunities existed but where entrepreneurs have not organised a formal entrepreneurial collective to trade globally. The types of cluster association that currently exist include biotechnology, electric and electronic, information technology, and creative industries.

Network associations form strategic alliances with their member organisations to assist in their entering and continuations in global markets. They are seen as a means for entrepreneurial firms to achieve more rapid growth for member firms, as they can provide a mechanism for faster speed to market, providing close links between entrepreneurs, and provide more flexible services than other types of agencies [13].

However, their success or otherwise crucially depends on the nature of the network association. They are usually incorporated independently of any government initiative and how they manage assistance to their membership is not a well researched phenomenon. However, it is crucial to optimise the organisational structure of such organisations' bureaucracies and the cluster associations themselves may actually discourage entrepreneurial strategic initiatives, such as those related to utilising internet based technologies on at least seven common institutional constraint levels [13].

First, there is the possible policy constraints imposed by the main sponsors of cluster associations, namely, government. Government sponsors can at times be characterised by a traditional bureaucratic system where accountability and responsibility are narrowly defined and stringent output controls are imposed. Thus, bureaucracies often discourage strategic initiatives through the implementation of tight control. This may limit the cluster associations from having the ability or scope to guide its strategic direction. At times, centrally controlled bureaucracy can narrowly define the scope of what cluster associations can do rather than allowing it to take full responsibility. In contrast, cluster associations may rely on non-government resources. They have a greater reliance on shareholders or members to resource them. However, shareholders and members can also have a strategic agenda that is narrowly defined and that does not allow for visionary initiatives.

Second, government policy may poorly resource cluster associations, as is the current situation in Australia. In contrast, there are large amounts of resources being committed to cluster associations agencies by other nations like New Zealand, and in Europe and North America [15,16]. To compensate for poor resourcing and a dependence on one particular sponsor, cluster associations agencies may lobby to get funding from a range of sponsors including different tiers and departments within government and from non-government sources.

Third, cluster associations can be constrained by lack of national political leadership that has a vision for leadership in economic development. Fourth, programme policy changes may occur with government electoral cycles rather than being driven by entrepreneurial development cycles, for example, in Australia. Consequently, every time a different political party is elected to office, there are normally major policy changes in economic development. This can dissuade SMEs from involving themselves in such organisations.

Fifth, there may be a lack of skilled experts to implement development initiatives both at the board and staff levels. Sixth, there may be a shortage of professional development initiatives for developing these skills for staff and their board. Lastly, there

can be a lack of career paths for staff who are normally employed on short-term contracts.

In addition, variations in power-dependence and centralised/decentralised structures of institutional structures [17,18] and variations in interdependence [19] can be important predictors of the effectiveness of a cluster association in achieving its aims and, thus, facilitating the maximisation of benefits from cooperative use of new technologies.

In social systems and social interactions, interdependence exists whenever one actor does not entirely control all of the conditions necessary for the achievement of an action or for obtaining the outcome desired from the action. Interdependence characterises the relationship between the agents creating an outcome, not the outcome itself [19]. Interdependence characterised by cooperation establishes an environment in which a cluster association can undertake continuous interaction to build a shared understanding and mutually agreed upon decisions with a entrepreneurial firm.

This type of relationship is based on cognitive trust, i.e., the extent to which an entity [firm] is confident in and willing to act on the basis of the words, actions and decisions of another [the cluster association] [20]. Trust is cognition based in that

> "we choose whom we will trust in which respects and under what circumstances, and we base the choice on what we take to be 'good reasons', constituting evidence of trustworthiness." [21, p.970]

Cognitive trust allows people to take risks [20]. Past interactions, the extent of social similarity and situational factors impact on the development of cognition-based trust [22].

In this context, past interactions refer to, on the one hand, the dialogue that develops between a cluster association and its entrepreneurial firms. It also includes the separate assessment that a cluster association carries out on the feasibility of a strategic initiative into a global market. Separate assessment of initiatives within a cluster association can occur at the board and staff levels. Social similarity can be a constraint to building cognitive trust because cluster association and entrepreneurial firms are likely to have differing world-views. However, some authors suggest this diversity of viewpoints enhances creativity and gives access to a broader set of environmental resources [20]. Regarding situational factors, one way in which entrepreneurial firms within the cluster confirm their reputation is by successes they have in domestic and global markets and by image management.

Resource-dependence explores the exercise of power-dependence of individual organisations in an environment [19,23,24]. Power-dependence also explores centralised and decentralised power in the relationship(s) between the sponsor(s) and the cluster association. The focus is on the power-dependency that these relationships create within the delivery of an entrepreneurial development programme, such as the creation of a web-based presence for a network of SMEs.

For instance, a cluster association that is highly centrally planned and controlled would have a high level of power-dependence on sponsors compared to a decentralised organisation with a greater emphasis on partnership. Under conditions of decentralised planning and control, power-dependence is far more dispersed and as a result, there is a greater emphasis on partnership. This view is consistent with the innovation literature. For example, McGrath's [25] study found that the level of centralisation/decentralisation in operational decisions and activities characterises managerial influence on variations in innovation.

Cluster associations, with low power-dependence and high cooperation tend to enable faster speed to market, sophisticated business practices and ROI/profit for their clients. However, the precise reasons for this are largely unknown. What is known is that both social environment and organisational context have an impact on the frequency of innovation [26–28]. In addition, cluster associations with low formalisation of structures and that emphasise loose coupling of groups and flat hierarchy in structures tend to have a higher capacity to innovate [29,30]. This is because low formalisation of structures can promote openness and flexibility in roles, which is a precondition for the initiation of new ideas [28,31]. These cluster associations facilitate the sharing of expertise, more open and frequent communication and have a tendency to focus on results rather than turf [32].

In contrast, cluster associations with high levels of resource-dependence tend to exhibit a high level of bureaucratic control which does not necessarily allow a cluster association to have the full scope of strategic initiatives. A cluster association can thus have variations in innovation. These variations result from a combination of high or low power-dependence, depending upon the diversity of its sources of income and level of trust between the sponsor and the cluster association. Overall the literature on this issue remains insufficient. However, the probable relationships between types of cluster associations structures, innovation and interdependence are summarised in Figure 1.

Figure 1 Typology of cluster associations and SME cooperation

Cluster association

Interdependent	*Low formalization of structures/systems*	*High formalization of structures/systems*
Good cooperation	**Cell 1** **Innovation rich–** •Partnership between partners that is smart in interpreting and assessing risks And opportunities from environments •Cognitive trust	**Cell 2** **Innovation unguided–** •Partnership between partners that is smart in interpreting and assessing risks and opportunities from environments •No cognitive trust
Poor cooperation	**Cell 3** **Innovation frustration–** •Partnership between partners that is NOT smart in interpreting and assessing risks and opportunities from environments •Cognitive trust	**Cell 4** **Innovation poor–** •Partnership between partners that is NOT smart in interpreting and assessing risks and opportunities from environments •No cognitive trust

Cell 1 relates to the two factors of structures and processes that correspond to a situation that is 'innovation rich'. This is because of low formalisation of structures/systems and high cooperation that is observable through well-conceived assessment of the business plan/concept. Cell 2 corresponds to a situation described as 'innovation unguided', because of the high formalisation of structures/systems and high cooperation that can be observed through assessment of the strategic initiative. Cell 3 relates to two factors of structures and processes that correspond to a situation that is 'innovation frustration' because of low formalisation of structures/systems and low cooperation that is observable through poorly conceived assessment of the strategic initiative. Finally, Cell 4 relates to three factors of structures and processes that correspond to a situation that is 'innovation

lacking' because of high formalisation of structures/systems and low cooperation that is observable through poorly conceived assessment of the strategic initiative.

5 Conclusions

SME use of the internet and information technology has the ability to radically change the market places that these firms can access in the future. E-commerce contains both the potential to change the nature of the global business environment, incentives for SMEs to do so, and benefits to governments from encouraging such activities. However, given the costs of take-up for SMEs and the extra benefits to be derived from SME collaborative networks through the use of technology such as extranets, it also seems clear that government policy will need to be not only proactive, but also facilitatory. Utilising quasi-government organisations such as universities and Further Education colleges as hubs for extranets and the IT support required to run them, for example, would require government funding (if not government direction).

In addition, it appears that the use of networks of SMEs, utilising organisational structures such as networked cluster organisations, would seem a possible way to maximise benefits. This networking, however, must be organised utilising the appropriate structures if the cluster organisation itself is to be a solution rather than an additional problem to the SME in its quest to globalise. The major proposition introduced in this paper argues that cluster associations with low power-dependence and decentralised structures are better able to provide the necessary support that such SMEs require to utilise the technology.

The model outlined has implications both for policy and entrepreneurial firms. It identifies and clarifies the strengths and weaknesses of existing relationships between cluster associations and entrepreneurial firms, allowing more informed design of these interactions because it identifies the processes for their success. Government agencies need to acknowledge this when designing policies to create and utilise cluster associations in their promotion of indigenous SME development, uptake of IT, and exporting.

Ironically, therefore, whilst the internet offers SMEs the opportunity to rely less on other firms and deal directly with their customers, the nature of the global business environment may mean that, in order to fully benefit from the technology, alliances with local, national and international rivals are needed, facilitated by government assistance with training, technology, and organisation. "We all stand together" may be the call for such SMEs, after all.

References

1 Mehling, H. (1998) 'Survey says: e-commerce is crucial to success – small businesses are eager to sell wares on the web', *Computer Reseller News*, May 4, p.787.

2 Van Goeler, K. (1998) *Internet Commerce by Degrees: Small Business Early Adopters*, November 8, http://instat.com

3 Williams, V. and Phillips, B.D. (1999) *E-commerce: Small Business Venture online, July Report, Office of Advocacy*, US Small Business Administration, Washington DC, http://sba.gov/advo/stat/e_comm.pdf

4 Au, K.F. and Ho, D.C.K. (2002) 'Electronic commerce: a business model for Hong Kong clothing SMEs', *International Journal of Services Technology and Management*, Vol. 3, No. 1, pp.5–21.

5 Klang, M., Ihlstrom, C. and Olsson, S. (2002) 'Overcoming barriers: why SMEs should consider networks', *Service Technology and Management*, Vol. 3, No. 1, pp.68–81.

6 Whinston, A.B., Stahl, D.O. and Choi, S.Y. (1997) *The Economics of Electronic Commerce*, Macmillan Technical Publishing, Indianapolis, Indiana.

7 Arthur Andersen and National Small Business United (1998) *Survey of Small and Medium-Sized Businesses*, November, pp.19, 20.

8 Chappell, C. and Feindt, S. (1999) 'Analysis of e-commerce practices in SMEs', *ESPRIT KITE Project*, (Knowledge and Information Transfer on Electronic Commerce), January.

9 Price Waterhouse Coopers (1998) 'Economic outlook appears bright for technology businesses, especially smaller ones', *Trendsetter Barometer Report*, November 3.

10 Brooksbank, D., Thomas, B., Packham, G. and Morse, L. (2001) *E-Commerce and Small and Medium-Sized Enterprises in South East Wales: A Clear Case for Intervention?*, Paper presented at the *25th ISBA National Small Firms Policy and Research Conference*, Competing Perspectives of Small Business and Entrepreneurship.

11 Anon (1998) 'Mismatch between old tax and new e-commerce has Governments scrambling', *Tax Features*, Vol. 42, No. 10, November, pp.4–8.

12 Styles, K. and Goldsworthy, M. (2002) 'GI extranet: a case study in applying technology for competitive advantage', *International Journal of Networking and Virtual Organisations*, Vol. 1, No. 1, pp.82–90.

13 Christie, M.J., and Rowe, P.A. (2002) 'Entrepreneurial firms and globalisation: a theoretical perspective of faster speed to market for global traders', in Fuglistaller, U., Pleitner, H.J., Volery, T. and Weber, W. (Eds.): *Radical Change in the World: Will SMEs Soar or Crash? Recontres de St-Gall,* Swiss Research Institute of Small Business and Entrepreneurship, Theme D, St. Gallen, Switzerland, Verlag, KMU, HSG, pp.267–275.

14 Oakey, R.P. and Mukhtar, S.M. (1999) 'United Kingdom high-technology small firms in theory and practice: a review of recent trends', *International Small Business Journal*, Vol. 17, No. 2, pp.48–64.

15 Amin, A. (1999) 'The Emilian model: institutional challenges', *European Planning Studies*, Vol. 7, No. 4, pp.389–405.

16 Porter, M. (2000) 'Location, competition, and economic development: local clusters in a global economy', *Economic Development Quarterly*, Vol. 14, No. 1, pp.15–34.

17 Anderson, H.R. (1993) 'Rural development systems: lessons from Europe and northern Michigan', *Annuals of the American Academy of Political and Social Science*, Vol. 529, September, pp.140–154.

18 Halkier, H. (1992) 'Development agencies and regional policy: the case of Scottish development agency', *Regional Politics and Policy*, Vol. 2, No. 3, pp.1–26.

19 Pfeffer, J. and Salancik, G. (1978) *The External Control of Organizations: A Resource Dependence Perspective*, Harper and Row, New York.

20 McAllister, D.J. (1995) 'Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations', *Academy of Management Journal*, Vol. 38, No. 1, pp.24–59.

21 Lewis, J.D. and Wiegert, A. (1985) 'Trust as a social reality', *Social Forces*, Vol. 63, pp.967–985.

22 Zucker, L.G. (1986) 'The production of trust: institutional sources of economic structure, 1840–1920', in Staw, B.M. and Cummings, L.L. (Eds.): *Research in Organizational Behaviour*, JAI Press, Greenwich, CT, Vol. 8, pp.55–111.

23 Pfeffer, J. (1981) *Power in Organisations*, Pitman, Cambridge.

24 Thompson, J.D. (1967) *Organisations in Action*, McGraw-Hill, New York.

25 McGrath, R.G. (2001) 'Exploratory learning, innovative capacity, and managerial oversight', *Academy of Management Journal*, Vol. 44, No. 1, pp.118–131.

26 Amabile, T.M., Conti, R., Coon, H., Lazenby, J. and Herron, M. (1996) 'Assessing the work environment for creativity', *Academy of Management Journal*, Vol. 39, pp.1154–1184.

27 Moorman, C. and Miner, A.S. (1998) 'Organizational improvisation and organizational memory', *Academy of Management Review*, Vol. 23, pp.698–723.

28 Martin, J.F., Rowe, P.A. and Christie, M.J. (2001) 'Organising innovation for local economic development', *Proceedings of the Australian and New Zealand Academy of Management Conference*, December, Auckland.

29 Burns, T. and Stalker, G.M. (1961) *The Management of Innovation*, Tavistock, London.

30 Kohli, A. and Jaworski, B.J. (1990) 'Market orientation: the construct, research propositions, and managerial implications', *Journal of Marketing*, April, Vol. 54, pp.1–18.

31 Shepard, H. (1996) 'Innovation-resisting and innovation-producing organizations', *Journal of Business*, June, Vol. 40, pp.470–477.

32 McGuinis, M.A. and Ackelsberg, M.R. (1983) 'Effective innovation management: missing link in strategic planning?', *Journal of Business Strategy*, Winter, Vol. 4, pp.59–66.